

IS A PICTURE WORTH 1000 WORDS?

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Recently, Boris Randolph of Los Angeles proposed the following:

"The exact number of words that a PICTURE is worth can be found by forming all the possible words that can be made from the word PICTURE, using them only as often as they occur in PICTURE itself (namely once)..."

and provided a list of 126 words from Webster's Third. Intrigued, I

more. In this list, asterisked words are found only in the OED, and words denoted by § are only in the Times Atlas. Abbreviations (etc.), words found only as part of multi-word phrases (dernier cri, cui bono, ipe peroba, peti degree, Tiru Well, Truc Giang, Pei Hai, Pitur Rani, Petri dish, Teuri To), and hyphenated words (tie-up, re-up) have been excluded.

2-letter (24)	ri, Ir er, re et, te	up, pu ur, ru ut, tu	ie, ei it, ti Iu, Ui§	ce eu pe	pi ic cu
3-letter (68)	ire, Rei, rie, eir*, eri* ret, ter, ert, tre* rit, tri, itr, tir* rut, tur, tru*, Urt§ tie, lte, tei, iet* piu, Ipú§, Pui§, Upi§ Uri, Iru, Rui§, Riu§		cur, cru, ruc* per, rep, Erp§ rip, pir, pri* rue, ure, reu*		tic, cit pie, épi cue, écu pet, tep* pit, tip pue, upe* pur, pru* put, tup Ute, tue tui, Itu§
4-letter (111)	rite, tier, tire, iter, reit, riet, trie*, trei*, teir*, Reti§, Iret' § true, rute, ture, reut, ertu*, ruet*, teru*, treu*, tuer*, uter* pier, ripe, prie, peri, pire, irpe*, peir*, prei*, riep* rice, Eric, cire, icre, icer, crei*, crie*, Riec§ pure, Peru, puer, Prue, peur*, preu* cure, ecru, eruc, crue, recu, creu* puir, puri, Piru§, Ripu§, Rupi§ tupi, puit, tuip*, Iput' §, Pitu§				curt, crut, ruct*, Turc* ueir*, riue*, Urie§, Eiru§ piet, tipe, pite, peit* pert, terp, pret, rept*

	cert, rect, cret*	cuir, uric	crip	pect
	cite, ceti, tice	epic, pice	cuit	pict
	pute, puet, tupe*	puce, cupe*	cute	crep*
	turp, prut, rupt*	trip, ript	etui	iuce*
	turi, ruit*, Rūti§	crit*, rict*	crup	tuei*
5-letter (57)	price, cripe, repic, ciper*, cipre*, Cierp§, Péric§, Preci§ tripe, retip, perit, piert, peirt*, perti*, repit*, treip*			
	trice, récti, citer, ticer, recit, tirce* cruet, cuter, truce, eruct, recut, curet* erupt, prute*, purte*, puter*, reput*, Putre§			
	Curie, ureic, urcei, cuire*			
	rupie, puire*, purie*	rutic, cruit*	crept	ureit*
	uteri, urite, Eruti§	Pruce, crupe*	cript*	
	cutie, Ceuti§, Cuité§	uptie, piute	Tepic§	
6-letter (11)	curite, uretic, Teucri, curiet*			
	pteric, cripte*		pericu	
	precut, Crupet§		pictur*	
			putrie*	
7-letter (2)	picture, cuprite			

Alas, a PICTURE falls far short of 1000 words, and is most unlikely to reach this goal no matter how many references are consulted.

Can any seven-letter word reach the 1000-word plateau? One can shed some light on this problem by looking for the most fertile combination of letters if only Merriam-Webster Pocket Dictionary boldface entries (plus plurals, past tenses, participles and similar inferred forms) are allowed. Noting that the 273 words of PICTURE contain 46 Pocket Dictionary words, one can then extrapolate upwards with a factor of 5.93.

Subject to further discoveries, I propose the following words as best:

3	SAP	sap, asp, pas, spa
(6)		pa; as
4	PATE	pate, peat, tape
(14)		pat, apt, tap; pea, ape; pet; eat, ate, tea
		at; pa
5	SPATE	spate, paste, tapes, peats, pates
(42)		past, pats, taps, spat; apes, apse, peas; seat, east, teas, eats,
		sate; pest, step, pets; pate, peat, tape
		set; sea; sat; sap, pas, asp, spa; pat, apt, tap; pea, ape; pet;
		eat, ate, tea
		at; pa; as

- 6 REPAST prates, repast, tapers
(96) spear, parse, spare, rapes, reaps, pears, pares; tears, rates, tares, aster, stare; prate, taper; strap, parts, traps, sprat; spate, paste, tapes, peats, pates
spar, rasp, raps, pars; part, trap; pear, pare, reap, rape; sear, eras, ears, sera; star, rats, arts, tars; rate, tare, tear; rest, erst; pert; past, pats, taps, spat; apes, apse, peas; seat, east, teas, eats, sate; pest, step, pets; pate, peat, tape are, era, ear; art, tar, rat; par, rap; set; sea; sat; sap, pas, spa, asp; pat, apt, tap; pea, ape; pet; eat, ate, tea; per at; pa; as
- 7 PIASTER piaster, parties, pirates
(169) pirate; satire; esprit, sprite, priest, stripe, tripes; praise, aspire, spirea; tapirs
rites, tiers, tires, tries; irate; arise, raise, Aries; astir, sitar, stair, stria, tarsi; tripe; piers, spire, prise, pries; strip, trips, spirt; spite; tapir; pairs; sepia
pair; pits, spit, tips; pies; rips; trip; ripe, pier; airs, sari; site, ties; stir; sire, rise, ires; rite, tier, tire
ire; tie; sir; sit, its; air; rip; pie; pit, tip; sip
is; it; pi
(plus all words listed under REPAST)

Multiplying the 169 Pocket Dictionary words in PIASTER by 5.93, one obtains 1002 words -- so, perhaps, there exist some seven-letter words with a thousand words contained therein.

To put the task of finding such a word in better perspective, assume it contains three different vowels and four different consonants. The number of different possible letter-combinations for various mixtures of vowels and consonants is given below:

VC 6	6	2	12
VCC 18, VVC 12	30	4	120
VCCC 12, VVCC 18, VVVC 4	34	15	510
VCCCC 3, VVCCC 12, VVVCC 6	21	12	252
			<u>894</u>

In theory, a word of n different letters can be arranged in $n!$ different ways -- 2 for words of two letters, 6 for words of three letters, 24 for words of four letters, and so on. In practice, these limits are almost never achieved except for a few two-letter and three-letter words. In order to reach the 1000-word level, one must find the average number of rearrangements given in the middle column, plus at least 100 words of six or seven letters -- a well-nigh impossible achievement! Philip Cohen believes that 1000 words might be possible if open sources are allowed, and adds that for eight-letter words the 1000-word plateau should be fairly easy to reach.